IN THE UNITED STATES PATENT & TRADEMARK OFFICE

Appellant:	Haverinen	Examiner:	Ajayi, J.
Serial No.:	10/659,777	Group Art Unit:	2617
Filing Date:	September 10, 2003	Docket No.:	KOLS.047PA
Confirmation No.:	4888	Customer No.:	76385
Title:	HANDOVER		

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this paper is being electronically transmitted by EFS-WEB to the United States Patent and Trademark Office on June 1, 2010.

By: /Erin Nichols Matkaiti/
Erin Nichols Matkaiti

REPLY BRIEF

Mail Stop Appeal Brief - Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Reply Brief is submitted pursuant to 37 C.F.R. § 41.41 for the above-referenced patent application in response to the Examiner's Answer dated March 30, 2010.

This brief specifically addresses in section III (Argument) the comments provided in the "Response to Argument" section (10) of the Examiner's Answer. The remaining sections of this brief duplicate the information provided in the Appeal Brief filed on January 11, 2010.

No fee is believed to be required for the filing of this Reply Brief; however, if it is determined that a fee is necessary, authority is given to charge/credit deposit account 50-3581 (KOLS.047PA) in support of this filing.

TABLE OF CONTENTS

I. STATUS OF CLAIMS

Claims 1, 2, 6-8, and 13-32 are pending, and claims 3-5 and 9-12 have been canceled. Claims 1, 2, 6-8, and 13-32 have been finally rejected by the Examiner's action dated December 30, 2008 (hereinafter "final Office Action"), from which Appellant appeals.

A copy of claims 1, 2, 6-8, and 13-32, which are the subject of this appeal, may be found in the Claims Appendix (section IV) at pages 8-14.

II. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Claims 1, 2, 8, 13, 15-17, 19, 20, 24-28, and 32 stand rejected under 35 U.S.C. § 102(e) over La Porta *et al.* (U.S. Patent No. 6,654,359) (hereinafter "La Porta").

B. Claims 6, 7, 14, 18, 21-23, and 29-31 stand rejected under 35 U.S.C. § 103(a) over La Porta in view of Johansson *et al.* (U.S. Publication No. 2002/0080752) (hereinafter "Johansson").

III. ARGUMENT

Appellant maintains each of the arguments presented in the Appeal Brief filed on January 11, 2010. In addition, the following arguments address the points raised in the Examiner's Answer at pages eight through ten.

A. The asserted maintenance of La Porta's care-of address in a foreign domain does not correspond to the claimed transfer of a tunneling IP address.

The claimed invention requires "transferring at least the tunneling IP address from the first access device to a second access device in response to detecting a need to change the connection of the terminal to be carried out by the second access device" (using the language of independent claim 1 for purposes of example). The claimed first access device is a device from which a terminal is being handed over, and the second access device is the device to which the terminal is being handed. Thus, the second access device replaces the first access device as one of the endpoints of the tunnel.

The Examiner relies, at page eight of the Examiner's Answer, on La Porta's teaching that a mobile device's care-of address is maintained while the device is located in a foreign domain, regardless of the number of handoffs performed between the base stations associated with that foreign domain (Col. 7, lines 41-47). Notably, this is the only scenario described by La Porta that could correspond to the claimed limitations since tunneling is not required when a mobile device's point of attachment is from a base station included in the home domain (Col. 9, lines 3-5), and if the mobile device is handed off to a base station affiliated with a new foreign domain, the current care-of address is released and a new care-of address is acquired (Col. 10, lines 60-62).

While La Porta teaches that the foreign domain care-of address is maintained, the care-of address is not transferred, or handed off, between the base stations of that foreign domain as asserted by the Examiner. Rather, the mobile device acquires a dynamic IP care-of address from a Dynamic Host Configuration Protocol (DHCP) server supporting that foreign domain. Then the mobile device provides the device's care-of address (IP address field 314) to each router utilized to route packets from the root router for that foreign domain to the mobile device using a power up path setup message. When the

mobile device moves from one base station to another within the foreign domain, the mobile device notifies the appropriate routers with the new base station's IP address using a handoff path setup message. The cited portion at column ten of La Porta merely teaches that routing in the foreign domain is established using a specialized path setup scheme using a handoff path setup message (Col. 9, lines 47-51; Col. 10, lines 46-60). As long as the mobile device is handed off to base stations within the foreign domain, no action is taken other than generating a handoff path setup message (Col. 10, lines 57-60). No additional action is necessary because the affected routers already have the care-of address.

Thus, when the handoff path setup message is sent to those domain routers having a routing table that needs updating due to the change in base stations within the domain, each of those routers already knows the care-of address. La Porta does not teach transferring the care-of address; rather, La Porta merely teaches updating routing information (base station IP address) related to the location of the mobile device. Thus, La Porta does not teach or suggest transferring the care-of address (asserted as corresponding to the claimed tunneling IP address), as claimed.

In addition, La Porta does not teach or suggest transferring a tunneling IP address from a first base station (asserted as corresponding to the claimed first access device) to a second base station (asserted as corresponding to the claimed second access device). As explained at page nine of the Appeal Brief, La Porta explicitly states at Col. 21, lines 45-47 (emphasis added), "The mobile device 114 then transmits the handoff path setup message over a first hop 450 to base station BS10 IntfB." This is further emphasized at Col. 13, lines 36-39, where La Porta teaches that the handoff path setup message is "initiated and sent by a mobile device". Further, Col. 20, lines 34-36 teaches that the handoff path setup message is initiated and sent by a mobile device from the new base station to the old base station. Thus, the mobile device initiates sending the message and instead sends the message in the opposite order that is claimed. Specifically, La Porta teaches sending the handoff path setup message from the new base station/second access device to the old base station/first access device. Thus, La Porta does not teach transferring a tunneling IP address or transferring the tunneling IP address from a first access device to a second access device, as claimed.

In order to maintain at least the § 102(e) rejection of the independent claims, the Examiner must present correspondence to every element of the claims. The Federal Circuit recently held that "Because the hallmark of anticipation is prior invention, the prior art reference—in order to anticipate under 35 U.S.C. § 102—must not only disclose all elements of the claim within the four corners of the document, but must also disclose those elements 'arranged as in the claim.'" (*Net Moneyin, Inc. v. Verisign, Inc.*, 545 F.3d 1359, 2008 (Fed. Cir. 2008) quoting *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983)). Therefore, all claim elements, and their limitations, must be found in the prior art reference to maintain the rejection based on 35 U.S.C. § 102. Appellant respectfully maintains that La Porta does not teach every element of independent claims 1, 13, 16, 19, and 26 in the requisite detail, and therefore fails to anticipate claims 1, 2, 8, 13, 15-17, 19, 20, 24-28, and 32. Accordingly, Appellant requests that the rejection be reversed.

B. The assertion that a home agent can be implemented in a base station fails to correspond to the claimed first and second access devices.

As set forth in the Examiner's Answer (page eight) and discussed above, the asserted handoff among base stations occurs within a single foreign domain/subnet. Therefore, the claimed handoff between a first access device and a second access device would allegedly be aligned with a handoff among devices in the foreign domain. The citations to La Porta's home agent at page eight do not provide any correspondence to devices in a foreign domain. For example, the citation to Col. 8, lines 42-48 merely teaches that a mobile device's fixed home IP address (not a foreign care-of address) remains unchanged since the example involves moving among base stations (BS5-BS7 of Fig. 2) in the home domain. Again, if the mobile device moves about within the home domain, no tunneling is required such that movement within the home domain would not correspond to the claimed transfer of a tunneling IP address. Thus, the citations to a home agent at page eight are not applicable to the claimed limitations and do not provide correspondence thereto. Therefore, Appellant maintains that the requisite correspondence has not been presented and maintains that the rejections must be reversed.

C. The newly-asserted rationale for modifying the teachings of La Porta fails to support a legal conclusion of obviousness.

For the first time in prosecution, the Examiner's Answer asserts that the teachings of La Porta and Johansson would be combined because "La Porta and Johansson both deal with a way to optimize Mobile IP" (pages nine and ten). However, no evidence or rationale has been presented that a skilled artisan would use the asserted teachings of Johansson to modify the system of La Porta. For example, no evidence has been presented that La Porta and Johansson are directed to optimizing the same aspects of Mobile IP or that the asserted teachings of Johansson are compatible with La Porta's system. Appellant notes that "[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741 (2007), 82 USPQ2d 1385, 1396 (quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006)); MPEP § 2143.01. Since the asserted teachings have not been shown to correspond to each of the claimed limitations, and the newly-asserted rationale for combining certain of the teachings fails to articulate reasoning with a rational underpinning for modifying the teachings of La Porta, Appellant maintains that a *prima facie* § 103(a) rejection has not been presented. Appellant accordingly requests that the § 103(a) rejection be withdrawn.

D. Conclusion

In view of the above, Appellant respectfully maintains that the claimed invention is patentable over the cited references and that the rejections of claims 1, 2, 6-8, and 13-32, should be reversed. Appellant respectfully requests reversal of the rejections as applied to the appealed claims and allowance of the entire application.

Authorization to charge the undersigned's deposit account is provided on the cover page of this brief.

Hollingsworth & Funk, LLC
8500 Normandale Lake Blvd., Suite 320
Minneapolis, MN 55437
952.854.2700

Respectfully submitted,

/Erin Nichols Matkaiti/

Name: Erin Nichols Matkaiti
Reg. No. 57,125

IV. CLAIMS APPENDIX

1. A method, comprising:

allocating a tunneling IP address for a tunnel to be formed for data transmission of a terminal connected to a first access device, to a corresponding host, to which tunneling IP address the tunnel is bound, and

transferring at least the tunneling IP address from the first access device to a second access device in response to detecting a need to change the connection of the terminal to be carried out by the second access device.

2. A method as claimed in claim 1, wherein tunnelling attributes, at least an IP address of the corresponding host and the tunnelling IP address allocated to the terminal in the first access device, are determined in an authentication server as a part of the authentication of the terminal before arranging the tunnel to the corresponding host,

the tunnelling attributes are transferred to the first access device in response to a successful authentication,

the IP address used in the data transmission of the terminal and the tunnelling IP address for the tunnel to be formed for the data transmission of the terminal that is used as an end point of the tunnel transferring data of the terminal are allocated in the first access device to the terminal,

the tunnel determined by the tunnelling attributes is bound in the first access device to the tunnelling IP address,

the tunnel, whose end points include the tunnelling IP address and the IP address of the corresponding host, is formed and thereafter the data transmission to the tunnelling IP address is transferred to a network interface of the first access device.

6. A method as claimed in claim 1, wherein the system supports an IPv6 protocol, whereby the information concerning a new binding is sent to at least one network node connected to the first access device and to the second access device to the routing table thereof using a Neighbour Discovery protocol.

7. A method as claimed in claim 1, wherein the system supports an IPv4 protocol, whereby the information concerning a new binding is sent to at least one network node connected to the first access device and to the second access device to an ARP table (Address Resolution Protocol) thereof using an ARP protocol.

8. A method as claimed in claim 1, wherein the first access device and the second access device are access points of a wireless local network connected to one another through a wired local network.

13. An access device for a telecommunication network, wherein the access device is configured to provide a terminal with a connection,

the access device is configured to allocate a tunnelling IP address for a tunnel to be formed for the data transmission of the terminal, to which tunnelling IP address the tunnel is bound

the access device is configured to form the tunnel between a corresponding host and an access device for data transmission of the terminal, and

the access device is configured to send at least said tunnelling IP address to a second access device in response to detecting a need to change the connection of the terminal to be implemented by the second access device.

14. An access device as claimed in claim 13, wherein said binding refers to the binding between a MAC address of the network interface and the tunnelling IP address.

15. An access device as claimed in claim 13, wherein the access device is configured to change the binding of the tunnelling IP address to temporarily denote the network interface of the second access device.

16. An access device for a telecommunication network comprising means for providing a terminal with a connection and means for forming a tunnel between a corresponding host and the access device for data transmission of the terminal, wherein the access device is configured to receive at least a tunnelling IP address allocated for a tunnel for the data transmission of the terminal in response to detecting a need to change the connection of the terminal to be implemented by the access device,

the access device is configured to form a binding between the tunnelling IP address and the network interface, and

the access device is configured to update the information concerning the new binding between the network interface and the tunnelling IP address to at least one network node included in the system.

17. An access device as claimed in claim 16, wherein the access device is configured to transfer data after updating between the terminal and the corresponding host using the binding formed.

18. An access device as claimed in claim 16, wherein said binding refers to the binding between a MAC address of the network interface and the tunnelling IP address, whereby

the access device is configured to send the information concerning said binding using an ARP protocol or a Neighbour Discovery protocol.

19. A communications apparatus comprising a processor and memory, wherein the apparatus is configured to

form a tunnel between a corresponding host and the apparatus for data transmission of a terminal,

the apparatus is configured to receive at least a tunnelling IP address allocated for a tunnel for the data transmission of the terminal in response to detecting a need to change the connection of the terminal to be implemented by the apparatus,

the apparatus is configured to form a binding between the tunnelling IP address and the network interface, and

the apparatus is configured to update the information concerning the new binding between the network interface and the tunnelling IP address to at least one network node included in the system.

20. An apparatus as claimed in claim 19, wherein the apparatus is configured to transfer data after updating between the terminal and the corresponding host using the binding formed.

21. An apparatus as claimed in claim 19, wherein said binding refers to the binding between a MAC address of the network interface and the tunnelling IP address, whereby the apparatus is configured to send the information concerning said binding using an ARP protocol or a Neighbour Discovery protocol.

22. An apparatus as claimed in claim 19, wherein the apparatus is configured to support an IPv6 protocol, and the apparatus is configured to send the information concerning the new binding to at least one network node by using a Neighbour Discovery protocol.

23. An apparatus as claimed in claim 19, wherein the apparatus is configured to support an IPv4 protocol, and the apparatus is configured to send the information concerning the new binding to at least one network node to an ARP table (Address Resolution Protocol) thereof by using an ARP protocol.

24. An apparatus as claimed in claim 19, wherein the apparatus is an access point of a wireless local network connected to another access point through a wired local network.

25. An apparatus as claimed in claim 19, wherein the network node is a router in a local network.

26. A method comprising:

receiving at least a tunnelling IP address allocated for a tunnel for data transmission of a terminal in response to detecting a need to change the connection of the terminal to be implemented by a second access device,

forming a binding between the tunnelling IP address and a network interface of the second access device, and

updating the information concerning the new binding between the network interface and the tunnelling IP address to at least one network node included in the system of the terminal.

27. A method as claimed in claim 26, the method further comprising:

transferring data between the terminal and the corresponding host using the binding configured to the second access device after updating.

28. A method as claimed in claim 26, wherein the network node is a router in a local network.

29. A method as claimed in claim 26, wherein said binding refers to binding between a MAC address of the network interface and the tunnelling IP address.

30. A method as claimed in claim 26, wherein the system supports an IPv6 protocol, whereby the information concerning the new binding is sent to at least one network node connected to the first access device and to the second access device to the routing table thereof using a Neighbour Discovery protocol.

31. A method as claimed in claim 26, wherein the system supports an IPv4protocol, whereby the information concerning the new binding is sent to at least one network node connected to the first access device and to the second access device to an ARP table (Address Resolution Protocol) thereof using an ARP protocol.

32. A method as claimed in claim 26, wherein the first access device and the second access device are access points of a wireless local network connected to one another through a wired local network.